IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:

Yusheng Zhao et al.

Docket No.: S-102,389

Serial No.:

Examiner:

Filed

Art Unit:

For

BULK SUPERHARD B-C-N

NANOCOMPOSITE COMPACT

AND METHOD FOR PREPARING THEREOF

Commissioner for Patents Washington, DC 20231

UNDER 37 CFR 1.56, 1.97, AND 1.98

Sir:

The documents listed below, copies attached, are submitted in compliance with the duty of disclosure defined in 37 CFR 1.56.

- 1. E. Knittle, R. B. Kaner, R. Jeanloz, and M. L. Cohen, "High-Pressure Synthesis, Characterization, and Equation of State of Cubic C-BN Solid Solutions," Physical Review B, Vol. 51, No. 18, pp. 149-156, May 1, 1995.
- 2. S. Veprek, "Nanostructured Superhard Materials," Chapter 4, Handbook of Ceramic Hard Materials, Ralf Riedel (Editor), pp. 104-139, 2000.
- 3. Tamikuni Komatsu, Miho Samedima, Ternyuki Awano, Yozo Kakadate, and Syuzo Fujiware, "Creation of Superhard B-C-N Heterodiamond Using an Advanced Shock Wave Compression Technology," Journal of Materials Processing Technology, Vol. 85, pp. 69-73, 1999.

CERTIFICATE OF MAILING/TRANSMISSION (37 CFR 1.8(a))

I hereby certify that this correspondence is, on the date shown below, being:

MAILING

deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the: Commissioner for Patents, Washington, DC 20231.

Days April 14 2004

FACSIMILE

☐ transmitted by facsimile to the United States Patent and Trademark Office.

Signature

Samuel L. Borkowsky

(type or print name of person certifying)

4. Wataru Utsumi, S. Nakano, K. Kimoto, T. Okada, M. Isshiki, T. Taniguchi, K. Funakoshi, M. Akaishi, and O. Shimomura, "In Situ X-Ray and TEM Observations on the Phase Transitions of BC₂N Under Static High Pressures," Proceedings of AIRAPPT-18, Beijing, p. 186, 2001.

5. Jianyu Huang, Yuntian T. Zhu, and Hirotaro Mori, "Structure and Phase Characteristics of Amorphous Boron-Carbon-Nitrogen Under High Pressure and High Temperature," J. Mater. Res., Vol. 16, No. 4, pp. 1178-1184, April 2001.

6. Vladimir L. Solozhenko, Denis Andrault, Guillaume Fiquet, Mohamed Mezouar, and David C. Rubie, "Synthesis of Superhard Cubic BC₂N, " Applied Physics Letters, Vol. 78, No. 10, pp. 1385-1387, March 5, 2001.

7. Takashi Taniguchi, Minoru Akaishi, and Shinobu Yamaoka, "Sintering of Cubic Boron Nitride Without Additives at 7.7 GPa and Above 2000 °C," J. Mater Res., Vol. 14, No. 1, pp. 162-169, January 1999.

8. Roger K. Wedlake et al., "Hard Materials of BCN in Tetrahedral Form and Method of Making It," U. S. Patent 4,187,083, issued February 5, 1980.

This Information Disclosure Statement is not to be construed as a representation that a search has been made or that additional matter material to the examination of this application does not exist. Applicant does not believe that any of these citations constitutes prior art under 35 U.S.C. 102.

It is requested that the above citations be made of record in the prosecution of this application.

Respectfully submitted,

Date: April 14 2004

Reg. No. 42,346 Phone (505) 665-3111 Samuel L. Borkowsky

Los Alamos National Laboratory

LC/IP, MS A187

Los Alamos, New Mexico 87545

	Sheet <u>1</u> of <u>1</u> Rev. 03/29/02						
Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. Serial No.					
	INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Applicant(s) Yusheng Zhao et al.					
37 CFR 1.98(b)			Filing Date		Group		
U.S. PATENTS DOCUMENTS							
EXAMINER INITIAL	PATENT ISSUE PATEN NUMBER DATE		E	CLASS	SUB CLASS	FILING DATE	
	4 1 8 7 0 8 3 02/05/80	Roger et al.	J. Wedlake	51	307	02/16/78	
FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL	PATENT ISSUE NUMBER DATE	COUN	COUNTRY		SUB CLASS	Translation YES NO	
OTHER DOCUMENTS (Including Author, Title, Date, Place of Publication)							
E. Knittle, R. B. Kaner, R. Jeanloz, and M. L. Cohen, "High-Pressure Synthesis, Characterization, and Equation of State of Cubic C-BN Solid Solutions," Physical Review B, Vol. 51, No. 18, pp. 149-156, May 1, 1995							
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·	Wataru Utsumi, S. Nakano, K. Kimoto, T. Okada, M. Isshiki, T. Taniguchi, K. Funakoshi, M. Akaishi, and O. Shimomura, "In Situ X-Ray and TEM Observations on the Phase Transitions of BC ₂ N Under Static High Pressures," Proceedings of AIRAPPT-18, Beijing, p. 186, 2001						
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EXAMINER:		DATE CONSIDERED:					
*EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next							
communication to applicant.							